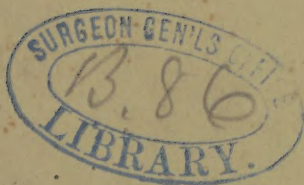
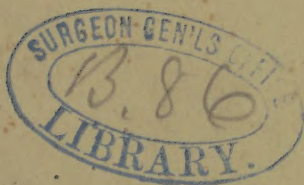


BEMISS (S.M.)

Sanitary legislation
in New Orleans



SANITARY LEGISLATION IN NEW ORLEANS.

BY S. M. BEMISS, M. D.,

PROFESSOR OF THE THEORY AND PRACTICE OF MEDICINE, UNIVERSITY OF LOUISIANA.

(Being a Continuation of the "Study of the Sanitary History and Condition of New Orleans." *)

(From the April (1870) Number, New Orleans Journal of Medicine.)

ALL accumulations of facts in reference to the aggregate prevalence of diseases, or the circumstances which immediately attend their prevalence, are practically valueless unless advantage is taken of this knowledge in bringing about wise and co-operative measures for their prevention or extirpation. When such facts are obtained and acted upon with scientific intelligence, it is precisely as when in war the sagacious General gains all the information possible to be obtained respecting his opponents, in order that he may better direct his attack or defense.

When men ascribed diseases to planetary influence, they, of course, believed themselves impotent to arrest them, and either passively endured, saying with the Turk, "God wills it!" or they undertook to propitiate an angry Deity by rites and observances which were themselves the occasional means of propagating the pestilences they were designed to arrest. Such was true of the order of "Flagellants" of the middle ages. But knowledge has increased, both as it respects the learned professions and its popular diffusion, and the study of the natural history of diseases has shown that each one of a large number of

* See article on "Vital Statistics of New Orleans," by Prof. Chaillé, in the January No. of the New Orleans Journal of Medicine.

the most fatal among them has a cause peculiar and specific to itself. For example, the cause, or active principle, which produces small-pox does not produce measles or scarlet fever, nor the latter the former.

This is true of all that class of "General Diseases," "A." (New Nomenclature of Diseases) in the division of my colleague, which prove such sources of terror and fatality to our species. The essential cause which produces one, does not, as a matter of hap-hazard, give rise to another or any other of these affections, but each one reproduces its kind with as much uniformity as the seeds of plants. It does, however, occur that in many instances the essential causes of two of these affections may become conjoined either in the atmosphere, or after being received into the system and thus give rise to hybrid attacks of sickness, presenting the characteristics in different proportions of the combined diseases. These are important points in the study or application of the principles of sanitary science, for they show, first, that the essential causes of disease do not interchange character or effects with each other; second, that they may become combined, and therefore, that the poisons which produce pestilential diseases, sometimes exhibit such affinity for each other as to enter into combination. This latter fact is sufficient to illustrate the probability amounting very nearly to absolute demonstration that they may also combine with various volatile emanations floating in the atmosphere and make them hot beds for their multiplication or vehicles for their diffusion.

Sanitary science therefore rests upon the truth of the postulate that disease is not a mysterious entity occurring by chance, or even by special dispensations of the Deity, to be charmed away by incantations, or prevented by imploring direct Providential interference, but that it results from the action of physical agents, which are themselves susceptible of destruction and extermination by human efforts, or, sad to say, of increased multiplication by neglect, or misdirected measures. So soon as we learn to realize that the "death in the pot" is from herbs of our own culture or plucking, we appreciate all efforts to point out those which are pernicious and the means of destroying their poison or avoiding them.

But even if the wisest of sanitary teachers should point out to the residents of any populous city, the best means of preventing sickness, only a portion of the population would be sufficiently intelligent and thoughtful to apply their precepts to their own protection. The less intelligent, the thoughtless or reckless, or the selfish, would disregard all advice and by their misconduct would entail disease upon both themselves and their fellow-citizens. This fact affords complete justification of the establishment of sanitary codes and their compulsory enforcement, although involving inconvenience, expense and some sacrifice of individual liberty.

The following is an abstract of the present sanitary laws of this city, compiled from Mr. Leovy's "laws and ordinances of New Orleans ;"

An Act of the Legislature establishes a Board of Health.

Section 1. Authorizes to locate quarantine grounds.

Section 2. Defines construction of the Board; to consist of nine "competent citizens of the State," "selected with reference to their known zeal in favor of a quarantine system," commissioned by the Governor for one year, and required to make oath "well and truly to enforce and comply with the provisions of an act entitled, "An act to establish quarantine for the protection of the State."

Section 3. Shall meet once a month from first of November to first of June, and once a week, or oftener at will, from first of June to first of November.

Sections 4 and 5, prescribe plan of organization, and enact that four members shall constitute a quorum for all business except "contract for building."

The remaining sections relate to the performance of quarantine enactments, except the following provisions :

Part of section 6 gives the Board of Health "power to remove or cause to be removed, any substance which they may deem detrimental to the health of the City of New Orleans, and the Commissioners of the Streets shall execute their orders whenever not in conflict with the ordinances of the city, or the laws of the State; to pass and enforce sanitary ordinances for the city, pro-

vided the same are approved by the Council and published as city ordinances ; to define the duties of officers employed by them and impose additional duties to officers appointed under this act; to issue warrants to any constable, police officer or sheriff in the State to apprehend and remove such person or persons as cannot be otherwise subjected to the provisions of this act, or who shall have violated the same."

Part of section 14 enacts "That every person who shall violate the provisions of this act by refusing or neglecting to obey or comply with any order, prohibition or regulation made by the Board of Health, in the exercise of the powers herein conferred, shall be guilty of a misdemeanor, punishable by fine and imprisonment, at the discretion of the court by which the offender shall be tried."

The following are the Health ordinances of the City of New Orleans :

ART. 1. All persons are forbidden and are prohibited from allowing, keeping, throwing, dropping or depositing any ordure, excrement, offal, filth, manure, foul and offensive matter, stagnant, corrupt or putrid water, or any shells, hay, straw, kitchen stuff, paper, cloth, or any substance of any kind which may be offensive to the smell or injurious to health, in any yard, lot, room or building, or on any banquette, street, alley, wharf, levee or any public place, or in any gutter, drain or canal within the city, under a fine of not less than five dollars or more than twenty-five dollars for each and every offence: *Provided*, that ordinary refuse, sweepings and kitchen offal may be deposited in tubs, boxes, barrels, buckets or other suitable receptacles, to be placed on the outside of the banquettes, convenient to be taken off by the offal carts on each morning, by six o'clock in summer and by eight o'clock in the winter.

A city ordinance makes it an offence and nuisance "to keep or let remain within yards or private alleys, any of the articles or things mentioned in the preceding section, more than twenty-four hours."

Very often dead poultry or spoiled meat is thrown into the boxes to be placed on the banquettes, and it is not infrequently the case that the passing of the garbage carts is rendered extremely offensive from this cause. The drivers of city carts should be furnished with close boxes for such material as this, or with deoderizers to destroy the offensive smell. Either pro-

cess may be adopted with very little expense, and the city in this manner avoid the almost daily violation, on her own part, of Section 14 of the Health Ordinance.

ART. 2. It shall not be lawful for any person or persons to deposit in any part of the city except at the nuisance wharf, any ordure, excrement, offal or filth; or any putrid, foul or offensive matters; or any refuse or noxious substances, under a penalty of not less than five dollars nor more than twenty-five dollars.

ART. 3. No person shall impede or obstruct the passage or flow of water of any gutter, ditch, pipe or drain in this city, or in any manner dam the same, under a penalty of not less than five dollars nor more than twenty-five dollars.

Under the head of "offences and nuisances," Articles 5 and 6, page 327 Leovy, it is ordered that "no person shall suffer stagnant water to remain on his premises, or in any lot owned by him; and any person who shall fail, after sixty days' notice given to him by the street commissioner, to fill up his said lot or premises so as to cause the water to run off in the streets and not on the adjacent lots, shall be fined in the sums hereinafter mentioned. It shall be unlawful to fill up, or partly fill up, any lot with manure or other offensive or deleterious matter."

Article 5 should be construed to apply to standing water under the floors of houses as well as in open lots. The carelessness of builders, in constructing houses in such a manner that free ventilation is not secured beneath them, and without any attention to raising the surface within the foundations, so as to prevent standing pools of water, should become a subject of sanitary legislation and inspection. Almost every citizen knows that many of what are regarded first class residences in this city, are chargeable with one or both of these defects—defects which unquestionably add an important item to the sum total of bad health in our population. The gaseous emanations which perpetually escape from a soil so largely impregnated with organic substances as this, should have free access to the open air and not be forcibly driven through the floors of houses into the apartments of their occupants.

It is probable that very few, even of the most intelligent citizens of New Orleans, have ever brought to their minds a full realization of the important changes produced in the air we breathe by the surface water of this city. Unfortunately we are obliged to include under this term the water in all our drainage canals and gutters as well as that standing upon lots or streets.

It may aid in giving some idea of our constant exposure to deleterious agents from this source by mentioning the fact that the method of administering medicines by inhalation is known to be one of the most certain and efficient modes of securing their effects. The means physicians adopt for the introduction of medicines by inhalation are as follows: first, they dissolve or infuse the drug in water, then they volatilize the water by one of two methods. They either vaporize it by heat, and direct their patients to inhale the vapor, or they reduce the water to spray by jetting a stream against a solid surface and their patient breathe this spray. The reeking poisons which enter into the composition of the gutter water of this city gain admission to our lungs (at the rate of more than one thousand doses per hour,) by both of these processes.

For the accomplishment of the former mode the heat of an almost tropical sun amply suffices, but added to this, we see daily and in numerous places, persons busily employed scooping up the filthy water and throwing it over the streets, to prevent dust, and also in cutting down the growing plants, as if intentionally striving by every known means to secure the utmost possible degree of vaporization of the surface water. To the future healthfulness of the city, the abandonment of the present system of open sewerage is a paramount necessity.

The drainage of localities situated lower than the immediately adjacent water-level, as is this city in respect to the Mississippi river, must always involve difficulties proportionate to the height to which the water is to be lifted and the amount to be removed. The obstacles to the drainage of this city, in the direction of Lake Pontchartrain, are, first: that the fall is so slight that the larger sewers or debouching canals require machinery to propel their sewerage, however fluid, in the direction of their outlets; second: that the storm tides of the lake reach a level several feet higher than the surface upon which a large portion of the city is built. When the lake is fenced out by dykes, sufficiently high and strong, this latter evil will be remedied. Great care should be exercised, first: that the levee along the city front be kept as free as possible of leaks, next, that the river

end of the system of sewers be constructed with special reference to the collection of this leakage water. But another important defect in our present system of drainage is, that the gutters have no adaptation in point of capacity to the rain falls of this locality. I do not suppose that it is possible with a surface as nearly flat as the site of this city and a rain-fall occasionally amounting to six inches in twenty-four hours, to construct sewers which would at all times prevent the streets from being flooded, but we all know that a great improvement can and should be effected, in so far as our principle streets are concerned at least.* From the present pecuniary condition of New Orleans, the day is probably very distant, when a system of covered sewers and canals will be constructed, but it seems to me no less the duty of the sanitary writer to urge the wisdom and necessity of measures so well calculated to benefit her population and enhance her prosperity.

ART. 4. It shall not be lawful for any person or persons to keep a hog or hogs within the pound limits of this city, nor permit the same to run at large, under the penalty of not less than five dollars nor more than twenty-five dollars for each and every offence.

ART. 5. No owner of any animal afflicted with the glanders, or with any contagious distemper or disease, shall suffer the same to roam at large in any street, road or way, or any wharf or levee, or in any public place whatever, under a penalty of twenty-five dollars for each and every offence.

An ordinance which should be strictly enforced. The interdependence between epizootics and epidemics is undoubtedly at times well marked, but how often or to what extent the association exists, remains to be shown.

ART. 6. Whenever any horse, mule, cow or any other animal shall die in the city, it shall be the duty of the owner or keeper thereof to have it forthwith removed to properly located and authorized factories, where it may be disposed of for useful purposes, under proper regulations; or to bury the same, or cause the same to be buried beyond the precincts of the city in a hole of sufficient depth; or to cast the same, or cause the same to be cast into the nuisance boats, and from thence into the middle of the river at least a quarter of a mile below the lower limits of the

* If the recent reports from Ismaeli are correct, that the introduction of water and planting of trees have effected such a change in its climatic conditions that abundant showers have occurred in a heretofore rainless region, why should we not hope to witness an exactly opposite change in regard to the amount of our rain-fall by draining the swamps and reducing the extent of evaporating surface in the immediate vicinity of the city? Man may yet learn that even the elements show pliability to his efforts for their control when guided by the highest exercise of wisdom.

third district; and every person failing to comply with the provisions hereof within eighteen hours after the death of such animal, shall be fined not less than twenty-five nor more than one hundred dollars for each and every such offence.

ART. 7. No person shall, without authority from the board of health, dig up, disinter, exhume or disentomb any human body, or the remains thereof, or shall knowingly aid therein or be accessory thereto, under the penalty of one hundred dollars for each and every offence.

ART. 8. No person, shall, without a permit from the board of health, introduce from beyond the limits of the city, from the 1st of May to the 31st of October, any human body, or the remains thereof, under a penalty of one hundred dollars for each and every offence.

ART. 9. No poisonous medicine, drug, preparation or substance shall be held for sale, or sold, or given or administered, except for lawful purposes and with proper motives, and by persons competent to give the directions and precautions as to the use thereof; nor shall any bottle, box, parcel or receptacle thereof be delivered to any person, unless the same is marked "Poison" in large and legible letters, nor under any circumstances to any person who may be suspected, presumed or judged capable or desirous of using it for any illegal or improper purpose, under a penalty of not less than ten dollars nor more than one hundred dollars for each and every offence.

ART. 10. No person shall adulterate, in a manner calculated to injure health, whether for the purpose of sale or otherwise, any substance intended for food, or any liquor intended for drink, or any drug or medicine, or shall offer for sale any such adulterated substance, under a penalty of not less than five dollars nor more than fifty dollars for each and every offence.

A competent chemist ought to be employed by the city, whose analyses and official reports should be sufficient grounds for legal process against those who violate these ordinances. I think the military bureaux ordinance, page 135, Leovy, is not enforced.

ART. 11. No person shall sell, or offer for sale, or expose in any public place, or keep in any private place, any blown, stale, decaying, putrid or unwholesome provisions, or tainted meat or fish, or any impure or unsound food, or any food or drink in a condition calculated to be injurious to health, or any animal which has died of disease, or which proves to have been diseased when killed, under a penalty of not less than twenty-five dollars nor more than one hundred dollars.

ART. 12. Every new privy hereafter constructed shall be at least three feet deep, built of bricks laid in cement from at least three feet below the surface, and raised at least one foot above the surface of the ground, and shall be so situated and constructed

as not to have an issue on any street or public way, and shall not be placed within three feet of any public street or highway, under a penalty of not less than fifty dollars nor more than one hundred dollars for each and every offence.

The provisions of this ordinance do not meet the requirements of a city topographically situated like New Orleans. A great deal of the territory within the city limits is liable to be inundated to a depth exceeding "one foot" when the contents of privy vaults must of necessity become diffused through the surface water. Whilst this kind of accident is not so likely to prejudice health here, as in localities where the drinking water is obtained from wells, it is yet so greatly to be deprecated as to call for either some improved plan of construction or more stringent regulations as to cleansing privies.

ART. 13. Whenever any vault or privy is filled up to within one foot of the level of the soil or surface of the ground, with fetid or offensive matter, or whenever any privy shall be in a condition injurious to the public health, the owner, tenant or occupant of the house, building or lot on which said privy may be found, shall cause the same to be emptied during the night, between the hours of 11½ P. M. and 4 o'clock A. M.; and the ordure therefrom to be carried to the nuisance wharf and thrown into the river, under a penalty of not less than ten dollars nor more than one hundred dollars for each and every offence, and for each and every day the offence shall be continued after forty-eight hours' notice shall have been given by or on behalf of the board of health to comply with the provisions hereof.

(ART. 1. That article No. 544, revised ordinances of the city, section 13, of the ordinance relative to nuisances and offences, be so amended as to read as follows, viz: Whenever any vault or privy, or hole, is filled to within one foot of the level of the soil or surface of the ground with fetid or offensive matter, or whenever the street commissioner shall consider any privy in a situation injurious to public health, the owners, tenants or occupants of the house, building or lots, on which said privy may be found, shall cause the same to be emptied during the night, as follows, viz: From the 15th of October to the 15th of March, between the hours of 12 o'clock P. M. and 5 o'clock A. M., and from the 15th of March to the 15th October, between the hours of 12 o'clock P. M. and 4 o'clock A. M.

ART. 2. That article No. 545 of said revised ordinances, section 14 of said ordinance, relative to offences and nuisances, be so amended so as to read as follows, viz: It shall not be lawful to convey through any street or other public highway of this city any night soil or feculent matter, except during the night, and within the following hours, viz: from the 15th October to

the 15th of March, between the hours of 12 o'clock P. M. and 5 o'clock A. M., from the 15th March to the 15th of October, between the hours of 12 o'clock P. M. and 4 o'clock A. M., and then only in tubs or covered carts, so made as not to be in the least offensive to public decency or injurious to public health; such carts or tubs to be made under the supervision of the street commissioner. And it is herein made the duty of all policemen and watchmen to arrest and conduct to the police pound all carts or other vehicles found in contravention to this ordinance, and further to arrest and conduct to any of the lockups or jails of the city the driver or drivers of such carts, or any other person having charge of the same, who, upon conviction shall pay a penalty of five dollars for each offence, the same to be recoverable before any recorder of the district wherever the contravention may take place, or before any court of competent jurisdiction, for the benefit of the city.)

ART. 14. It shall not be lawful to convey, through any street or public way of the city, or any suburb, any wagon, cart or other vehicle, or any close-stool, tub or other vehicle containing ordure, excrement or other foul and offensive matters, except during the night, between the hours of 11½ P. M. and 4 A. M., and in a manner neither offensive nor injurious to the public health, under a penalty of twenty-five dollars for each and every offence.

The vidangeurs should be compelled by law to deodorize the contents of the privies before taking them through the streets. This can be quickly and economically done with the ordinary carbolic acid, of commerce. A layer of dry earth or pounded charcoal over the top of each tub or box will accomplish the same end. The Chinese are accustomed to mix fat marl with their night soil in the "proportion of one-third to two-thirds and this compost kneaded into cakes becomes an article of commerce" as a fertilizing agent, and is said to be altogether deprived of its offensive odor. Whatever of sanitary wisdom this ancient people possess is the offspring of centuries of experience of the densest population of earth and should be estimated as of some value, at least.

Charcoal absorbs nearly seventy-six times its bulk of certain offensive gases and thus becomes an excellent filterer of air as well as of water. I own that simply deodorizing matter admitted to be injurious to health does not of necessity imply its "disinfection," that is, the destruction of its deleterious principle; but as the action of carbolic acid is to put a stop to processes of fermentation or putrefaction, and that of dry earth and char-

coal used as recommended above, is to absorb gases and thus filter the air evolved by the putrefying substance, there is reason to believe that each one of them is both a deodorizer and a disinfectant, in all cases where its application can reach the offensive material as perfectly as in cleaning privies, stables, market stalls, etc.

ART. 15. It shall be the duty of all street commissioners and deputy street commissioners, of all police officers and of all who have police authority in this city, to aid in the execution and enforcement of the provisions of this ordinance, by giving the necessary information to the board of health, by serving process or by making arrests under the authority of the said board; and the said commissioners and officers shall have full authority to enter premises under the said authority, for the purpose of making necessary examinations.

ART. 16. All persons wilfully obstructing or resisting commissioners or officers authorized by the Board of Health to enter premises for the purpose of examining the same, shall be fined not less than twenty-five dollars nor more than one hundred dollars for each and every offence.

Article 16 should be amended by inserting after the word "examining," 'cleansing or disinfecting.'

ART. 17. It shall be the duty of all citizens to lodge complaints with the board of health, with the street commissioners, or with the deputy commissioners, with police officers, or with any person exercising police authority in this city, of any violations of this ordinance; and for the facilitation of their doing so, books of complaint shall be kept at the office of the board of health, and at the office of each health officer appointed by the board of health. And it shall be the duty of the board of health and of each health officer to keep books in which complaints may be duly and formally entered. And the penalty for each and every violation of this section shall not be less than fifty dollars nor more than one hundred dollars.

ART. 18. No vessel, boat or water craft of any kind, and no railroad car, truck, wagon, cart or other vehicle, and no person or persons, by any means of carriage or conveyance, shall introduce within the limits of the city from beyond them, any hides, bones, peltry, rags, or other articles of any description whatever calculated to produce infection, or in any way to injure or endanger health, under a penalty of not less than twenty-five dollars nor more than one hundred dollars; *Provided*, That the board of health shall be empowered to give a permit for the introduction of hides, bones, peltry and rags, in cases in which they shall be satisfied that no noxious effects are to be feared from them.

ART. 19. No distiller, brewer or keeper of any workshop,

manufactory or laboratory, no warehouseman, soapboiler, chandler or other person whatever, shall have, keep, suffer, use, produce or store within the limits of the city, any foul, fetid, putrid or offensive or injurious matters, substances, odors or vapors calculated to injure the public health, under a penalty of not less than twenty-five dollars nor more than one hundred dollars for each and every offence ; *Provided*, That the board of health shall have power to close all such places, and to stop all such business, the continuance of which would endanger the public health.

ART. 20. Any person who shall perform the private offices of nature in public places so as to tend to create a public nuisance, or to effect the public health and salubrity, shall be fined not less than five dollars nor more than twenty-five dollars for each and every offence.

ART. 21. The coroner or coroners, or his or their deputies, and all physicians, surgeons, obstetricians, general practitioners, apothecaries, chemists, druggists, midwives, and all persons who use or pretend to use medical, obstetrical or surgical means for the treatment of disease, disorder or lesion, are hereby required, each, any or all of them, as the case may be, to report to the board of health, either directly or through the street commissioner, or his deputies, or through the police authorities, or otherwise, as may be the most convenient and certain, all cases of contagious, infectious or epidemiological diseases, especially such as cholera, yellow fever, trichiniasis, typhus or ship fever, small-pox, varioloid, or any of the grades of such diseases, or any others that may be at any time specified by the board of health, or may be generally adjudged contagious or infectious, and may come under their treatment, cognizance or supervision. And the penalty for offending against this provision shall not be less than fifty dollars nor more than one hundred dollars for each and every offence ; *Provided*, That when any disease shall have been declared epidemic, the board of health may declare it unnecessary to report further cases, and to declare the provisions of this section void as to such disease.

ART. 22. All ship-masters, ship surgeons, hotel-keepers, boarding-house keepers, lodging-house keepers and all other housekeepers, public and private, shall be required to give immediate information to the board of health of all contagious, infectious or epidemiological diseases which may have occurred within their cognizance. And in default of giving the requisite information, shall be fined not less than twenty-five dollars nor more than one hundred dollars for each and every offence.

ART. 23. No patient laboring under any contagious, infectious or other disease dangerous to the public health, shall be removed from one place to another without the permission of the board of health.

ART. 24. The board of health shall provide means of vaccinating all applicants, either at their homes or appointed public

places, as may be most convenient ; and it is hereby declared the duty of all good citizens to see themselves and their children, and all other persons, secured from the ravages of this loathsome disease, by having immediate recourse to this beneficent prophylactic.

(Vaccination and Commissioner of.)

ART. 1. *Resolved*, That the mayor of the city shall appoint a reputable physician from each ward, whose duty it shall be, under the direction of the commissioner of vaccination, to vaccinate all unprotected persons in the district to which he may be assigned, either at their residences or at the office of said physician, as circumstances may determine, free of charge to all who choose to avail themselves of his services.

ART. 2. The district physicians, accompanied by a police officer, to assist them in finding places under direction of the commissioner, shall go from house to house and examine every individual, as far as possible, and vaccinate those who have not been already secured from the infections of smallpox. This course shall be continued systematically a portion of each day until there is no further necessity for so doing.

ART. 3. Each individual vaccinated shall be re-examined on the seventh, eighth or ninth day after, by said physician, to ascertain the success of the operation ; and if not complete, he shall repeat the vaccination ; and each vaccinating physician thus employed by the city shall keep a correct catalogue of the names, age, sex and residence of every person vaccinated, and make weekly returns of the same to the commissioner of vaccination.

ART. 4. Each and every assistant thus appointed, as far as practicable, shall keep himself fully supplied with pure, fresh vaccine virus ; and when medical practitioners of the city require it of them, they shall furnish it, if to be spared, without charge.

ART. 5. The commissioner of vaccination is expected to make frequent personal examination of all the districts thus assigned, and give his earnest attention to the object contemplated by the municipal authorities of New Orleans, to secure the inhabitants from future epidemic ravages of the small-pox. And he is to make frequent reports to the mayor of the progress making to secure that most desirable object.

ART. 6. Assistant vaccine district physicians shall be paid one hundred dollars monthly, and may be removed by the commissioner for good cause, or transferred from one district to another, as the public exigencies may require.)

The extensive prevalence and fatality of the present epidemic of small-pox show that the Board of Health have not been invested with sufficient powers to enable them to effect its arrest. Vaccination should be made compulsory, during epidemic visitations at least, if the municipal government does not possess the

power to make it a standing requirement of all citizens to vaccinate all unprotected members of their respective families.

During the prevalence of any form of epidemic disease extraordinary powers should be vested in the Board of Health in regard to domicil visitation; in regard to the removal of sick persons from places where their presence will cause the spread of disease, and more especially in regard to authority to vacate rooms or buildings for the purpose of cleansing and disinfecting them and the furniture, bedding or clothing therein contained.

The accumulations of very many facts gathered from widely distant and different fields of observation strengthen in the highest degree the opinions now held, that the diseases which afflict mankind as epidemics owe their existence to the presence of incalculably minute organic bodies,—so small as to be susceptible of aerial transportation.* As the distinctive characteristic of organisms is their power to reproduce their kind, or, of self-multiplication, we are warranted in further concluding that the inception and increase of epidemic visitations presupposes, first a germinal organism, next powers of reproduction.

It would then follow as a consequence that the epidemic influence, or as it is properly termed the "mortality force" of different epidemics of any given disease, would vary in intensity accordingly as those circumstances which affected the development of the germs were more or less favorable to their reproduction. The same causes would affect also their liability and rate

* This is not a new theory but has only been better substantiated and developed recently than in times past. More than a century ago the opinion was expressed that the worst enemies of mankind were "infinitely small" animalcular or vegetable growths. Cuvier also speaks of the frightful profusion (*richesse effrayante*) of the insect world. Within the past few weeks the experiments of Prof. Tyndall have been made public—experiments which lead to an awe-inspiring appreciation of the enormous amount of organic material floating, in the form of dust, in the atmosphere of cities. "Further experiments" writes the reporter, "led to still more interesting results. A beam of light was made to illuminate the dust of the laboratory, and the flame of a spirit lamp allowed to play on it. Wreaths of darkness were at once seen to mingle with the flame, just like intensely black smoke. When the flame was placed below the beam of light, the same dark masses steamed upwards. They were at times blacker than the blackest smoke. A red hot poker placed under the beam produced the same dark wreaths. A large hydrogen flame led to the same result. Smoke was then out of the question. What, then, was the blackness? Simply that of stellar space resulting from the absence, from the track of the beam of all matter capable of scattering its light."

That these experiments may be comprehended by the unscientific as well as the scientific reader, it is proper to remark that the effect of heat applied in the various modes described, was to destroy all organic particles within its range, and thus produce the dark vacuum from absence of illuminated dust.

"The Professor then remarked: Nobody could without repugnance in the first instance, place the mouth at the illuminated focus of the electric beam and inhale the dirt revealed there. Nor is the disgust abolished by the reflection that, although we do not see the nastiness we are drawing it in our lungs every hour and minute of our lives. The wonder is, that so small a portion of this dirt should appear to be really deadly to man." * * *

of diffusion, even supposing their volatility to remain the same—the mere force of accumulation increasing the range of infection, for everybody knows that a large putrefying carcass will taint the atmosphere to a greater distance than a small one.

One of the greatest achievements of modern sanitary science is the practical application of what are called the “stamping out” measures to the arrest of epidemics. These measures look to the destruction of the special poison producing the disease and thus lay the axe at the root of the tree. If any agent is known to science which is specifically destructive of the epidemic poison the health officer’s duty is to apply its use and this process is called “disinfection.” If no such agent is known, the health officer supplies the deficiency in the best manner that he can by removing those conditions which experience proves to be favorable to the increase of the poison: he cleanses, purifies, ventilates, and wages exterminating war against every species of filth and impurity in or around infected houses. He ought to possess powers which would enable him during the prevalence of epidemics to exercise these functions in the most unrestricted manner.

ART. 25. Any person who shall hereafter throw dead animals, carrion, ordure, or other offensive or injurious matter into the river above the water works, shall be subject to a fine of not less than ten nor more than one hundred dollars.

Article 25 should be strictly enforced. Pure and wholesome water is indispensably necessary to the health and comfort of a population. The fact is now beyond contravention that the Mississippi water, when rid of its suspended material, is equal in purity to that supplied to any city in the country. Even drank together with its turbid silt, we have the satisfaction of knowing that at every draught of it we do not take into our stomachs the countless myriads of infusoria that each tumbler of unfiltered cistern water contains. The experiments of Leidy and others, have shown that these microscopic organisms are susceptible of digestion and therefore harmless. However true this may be in regard to their occasional imbibition, it does not impair the likelihood that their constant introduction into the human system is hurtful, nor remove our sense of disgust at the thought of swallowing them.

But aside from these microzoa there is a frequent cause of contamination of our cistern water whose baneful effects are beyond all dispute. I refer to the presence of lead. This poisonous metal is infused through cistern water from two principal sources, one, the use of lead in their manufacture and in painting them, the other, from lead pipes used in conducting the water from them. It must be borne in mind that the use of lead pipes in conducting rain water for drinking purposes, involves far more danger than its employment in the ordinary water works of cities, which uniformly supply fountain or river water. In the latter case the inner surface of the pipes becomes coated with an insoluble crust, generally consisting of some calcareous salt; in the former instance the salts and detritus of the lead commingle continuously with the water passing through them.

The builders of cisterns cannot reasonably be expected to be persons of such attainments as to be aware of the consequences likely to ensue from impregnating drinking water with lead, but surely there should be some mode of admonishing either the builders or purchasers, or both, that it is dangerous to coat the inner surfaces of the bottom planks of cisterns with white lead as they often do in jointing their seams. Then as if not content with the sources of risk above stated, we very frequently see the gutters and valleys leading the water from roofs to cisterns thickly painted with lead paints. These matters cannot easily be made subjects of legislation, but they are legitimate and important subjects of investigation and report by boards of health.

ART. 26. Hereafter it shall not be lawful to have, keep, hold, use or devote any place, premises or property whatever, situated above the present, or any future or other water works drawing their supplies from the Mississippi River, any stock-landing, slaughter house, dairy or other depot, the offal, refuse, ordure, soil or other injurious matter from which may, by being discharged therein, defile, corrupt or spoil the water supplied by the said water works to the city, or any part thereof; and the penalty for violating the provisions hereof shall not be less than fifty dollars nor more than one hundred dollars.

The location of slaughter houses, stables and dairies in the city limits below the main supply pipes of the water works, does not appear to be interdicted by any municipal law, but is to be regulated by the following ordinances:

(An Ordinance relative to Stables and Dairies.)

ART. 1. It shall not be lawful to erect within the following limits: East of Apollo, between the upper line of the city and Felicity; east of Benton, between Felicity-street and New Canal; east of Galvez-street, between the New Canal and Canal Carondelet; east of Broad-street, between Canal Carondelet and Esplanade streets; east of Goodchildren-street, between Esplanade and Independence; above Independence, from Goodchildren to the river, any livery stable, or to erect or keep any stable or shed, for the purpose of keeping more than two cows, without first obtaining leave of the common council. Any person violating these provisions shall be fined not less than ten nor more than twenty-five dollars, and five dollars a day for every day he shall use the said stables after notice from the street commissioner.

ART. 2. All owners of stables, or stalls, or dairies, or persons renting the same, within the city or suburbs, are forbidden to suffer manure to accumulate in said stables, or stalls, or dairy, or on the premises of the same. And all such persons are required to keep constantly in a state of cleanliness the said stables, or stalls, or dairies, and the whole extent of their premises, under penalty of a fine of not less than five nor more than twenty-five dollars, against every offender for every act or neglect in violation of this section.

ART. 3. It is the duty of the street commissioner, whenever he shall deem it necessary, to notify all keepers of stables to remove all manure or offal from the said premises; and every person failing to comply shall be fined from ten to twenty-five dollars, and three dollars a day for every day he shall neglect to remove the manure or offal, after notice as aforesaid.

ART. 5. No stable shall be erected within five feet of the sidewalk of any public street or road, unless the line of the stable along the street be a brick wall without openings thereon, under a penalty of twenty-five dollars.

ART. 6. All ordinances or parts of ordinances conflicting with the provisions of this ordinance, are hereby repealed.

ART. 7. It shall not be lawful for any person or persons to build any stable or stables for the accommodation of more than two horses or two cows, without having obtained a permission from the common council; any person or persons violating the foregoing shall pay a fine of ten dollars per day for every day they shall be in contravention.

That all ordinances or resolutions contrary to the foregoing resolution are hereby repealed.)

It is not proven that the atmosphere of cowhouses or livery stables is of itself prejudicial to human health. The disciples of Priestnitz hold that it is even salutary; but there is scarcely a question that everything which tends to increase the amount of animal excretions and animal effluviæ in a large

city, tends to depress its standard of health. This is accounted for in a two-fold manner: First, human vitality, and the power of resisting sickness are weakened by every circumstance which substitutes impure, for pure air. Second, the "mortality force" of all diseases whose mode of spread is wholly or in part by atmospheric diffusion, is liable to be increased in direct ratio to the amount of organic material floating in the air. This becomes directly palpable if the proposition is thus stated. Let X represent the mortality force or death rate of an epidemic; let Y represent the depression of vitality or lessened power to resist disease from respiring impure air; and Z represent the increased diffusibility of the epidemic poison from possible combinations with organic impurities in the air, then the intensity of mortality force will have a direct relation to the sum of X, plus Y, plus Z.

ART. 27. All slaughter houses, dairies, stables and other places in which animals are kept, whether for profit, pleasure, use or general purposes, shall be kept clean and wholesome by daily removal of ordure, urine, manure and all other offensive matters; and the penalty for each and every offence shall not be less than fifty nor more than one hundred dollars.

The following draft of a law to regulate cow houses, was incorporated in the report of the committee on the "Importance and Economy of Sanitary Measures to cities," made to the third quarantine convention which met in New York in 1857. With some alteration to meet the peculiarities of this locality it is well worthy of adoption by our sanitary law-makers.

1. Every cow-house shall be paved with flag-paving or other non-absorbent material, set and bedded in cement, with a proper inclination to the foot of the stalls, so as to drain into a channel leading, by a fall of not less than one and a half inches, or ten feet in a trapped gully.

2. Every cow house will be provided with a proper trapped drain, to convey fluid matter alone in the sewers.

3. Every cow-house shall be furnished with an adequate supply of water, and be washed thoroughly at least once a day.

4. All solid manure and refuse shall be carefully swept up twice a day, be kept under cover, and be carted away every morning by seven o'clock from Lady-day to Michaelmas, and by eight o'clock from Michaelmas to Lady-day.

5. Every cow-house shall be kept in proper condition, and the walls be lime-washed at least four times a year, within fourteen days after the quarter.

6. Every cow-house shall have at least 8 feet by 4 feet for each cow (when the cows are kept in separate stalls), or of 8 feet by 7 feet for every two cows (where the stalls are constructed to hold pairs), with a cubic capacity, in either case, of at least 1000 feet to each cow; shall be properly lighted and ventilated, and when the state of the neighborhood requires it, shall be provided with tight roofs and ventilating shafts, so as to convey the noxious exhalations above the level of the adjacent houses.

7. Every yard in which cow-houses is situated, shall be well paved with stone or other impervious material (the joints of the paving to be run with grout), with such a slope towards the channels and trapped gully, as to permit the rapid escape of all fluids into the sewer, and shall be washed at least once a day.

8. The grain-bins and receptacles for mash, shall be kept properly cleaned, and under cover.

9. No basement, and no part of a dwelling-house, shall be used as cow-sheds.

ART. 28. All contagiously, infectiously or epidemiologically sick cattle, horses and other animals, found within the limits of the city, shall be removed beyond them at the expense of the owners thereof, at the rate of five dollars for every one dollar of cost, if the owner shall leave it to the board of health to effect the removal, under the penalty of not less than seventy-five dollars nor more than one hundred dollars for each and every offence.

ART. 29. For the purpose of this ordinance the City of New Orleans shall be divided into four health districts, for each of which there shall be appointed by the board of health a health officer, who shall be a medical practitioner of standing and reputation; and the salary of each said health officer shall be \$1,500 per annum, and the said health districts shall respectively coincide with the present first, second, third and fourth municipal districts of the city.

ART. 30. The board of health shall have power to appoint and at pleasure to remove all officers appointed under this ordinance. The common council also to have the power of removal for neglect of duty, and to define the extent and nature of duties and powers of each health officer, extending them, if need be, in the case of any health officer to any part of the city.

The policy which governed the recent action of the council in vacating the office of health officer is poor economy and still worse philanthropy. The course which the wisest municipal legislators now adopt, is to place more powers in the hands of medical officers and hold them responsible for the execution of the trust confided to them. While I do not hold to a belief that physicians as individuals are either better or worse than other men, there is yet in the discharge of those duties which pertain immediately to their

profession, a solemn sense of responsibility, which would render them as conscientious in public as in private service.

The following city ordinances touching the cleanliness and sanitary condition of the city are not included in the "health ordinances."

An Ordinance concerning Hotels and Boarding Houses in the City of New Orleans.

ART. 1.—Hereafter every proprietor of any hotel or boarding-house kept in this city, and capable of accommodating more than seventy-five boarders or lodgers, shall keep a cart well covered and so constructed as to be capable of carrying off all the slops and offals from said hotels, as well as the sewerage from their water closets and privies, without emitting any offensive odors, at the hour hereinafter designated.

ART. 2. It shall be the duty of the proprietor of every such hotel or boarding-house to cause all such slops, offals and sewerage from their respective establishments to be removed in a cart constructed as aforesaid, and emptied into the Mississippi River, at the nuisance wharves of the city, every night, between the hours of 11 o'clock, P. M., and 3 o'clock, A. M.; and on failure to do so every night, as above ordained, each and every proprietor so offending shall be liable to pay a fine of one hundred dollars, recoverable before any of the Recorders of the city, or any court of competent jurisdiction, for the use of the city.

ART. 3. Hereafter it shall be unlawful for the proprietors of any hotel or boarding-house in this city to empty, or cause to be emptied, the slops or offals of their respective establishments in the streets of this city, or to establish and maintain, or to maintain and carry on, if already established, any sewer from their water closets or privies into the gutters of the streets of the city; and every proprietor of any hotel or boarding-house violating this section of the above named ordinance, shall be liable to pay a fine of one hundred dollars, recoverable before any of the recorders of this city, or any court of competent jurisdiction for the use of the city, for each offence and for every day that such sewer may exist.

ART. 4. It shall be the duty of the street commissioner to enforce strictly this ordinance; and the lieutenants of police are hereby notified to report to said street commissioner every infraction of the provisions of this ordinance.

ART. 5. This ordinance shall take effect and be in full force from and after the first day of January 1861, and that all ordinances contrary thereto be, and the same are hereby repealed.

ART. 6. On and after the first day of January, 1851, it shall be the duty of the city treasurer, at the time of issuing a license for a hotel or boarding-house in this city, to ascertain whether such hotel or boarding-house, from its capacity to accommodate

boarders or lodgers, comes within the provisions of this ordinance, and in such event to require from the proprietor of such hotel or boarding-house a bond, with solvent security, in the sum of five hundred dollars, conditioned for their strict compliance, respectively, with all the provisions of this ordinance; and it shall, moreover be the duty of said treasurer to furnish to each proprietor a copy of this ordinance, at the time of issuing a license for the keeping of a hotel or boarding-house in this city.

Ordinances for the Regulation of Markets.

ART. 7. That during the half hour immediately following the closing of said markets, the butchers or other persons hiring or occupying their respective stalls, stands and tables, shall be bound to scrape, wash and cleanse the same, as to keep the said stalls, stands and tables in the highest state of cleanliness; and every person neglecting to comply punctually with the disposition of this section, or who shall not quit the said markets at the hour specified in section 6 of the present ordinance, shall pay a fine of five dollars for each offence; and no person shall be permitted to sub-lease any stall, table or stand, under a penalty of fifty dollars.

ART. 9. That it shall not be lawful for any person to erect, or keep any stand, sell fish, shrimps, or have tubs to wash, or other encumbrance, on any of the banquettes of the markets of the city; nor to scale or cut fish on any of the square tables, but exclusively on blocks prepared for that purpose, within the markets, under a fine of not less five dollars a day for each stand.

ART. 10. That if any person shall sell, or expose for sale within the markets aforesaid, any blown, stale, imperfect or unwholesome provisions, or meat of any animal that died of disease, such provisions or meats shall be seized by the commissary, and shall be thrown into the nuisance boat, and the offender shall be fined from ten to fifty dollars for the first offence, and for the second he shall be deprived of vending in any of the markets or of hiring any stall. It shall be the duty of the commissaries of the markets, daily, to make a strict inspection of the butchers' meat, and of other provisions exposed for sale at the said markets, and to enforce the strict observance of this regulation.

ART. 32. That all vendors of meat, fish, fruit, etc., within the limits of said markets, shall be required to throw the daily refuse of their stands into the barrels or tubs so provided, and that the contractor for cleansing the streets of their district shall cause the same to be disposed of as in the case of other daily offal.

ART. 33. That any vendor in said markets who shall throw, or cause to be thrown, any meat, fish, fruit or vegetables, whether decayed or otherwise, into any of the streets or gutters adjoining said markets, shall be liable to a fine of not less than five nor more than twenty dollars for each offence; one-half of which shall be paid to the informant, the balance deposited in the city treasury for the use of the city.

More care should be exercised in the removal of the offal of fish. In a number of the markets the entrails are thrown upon the pavement. Whatever may be the disagreements among medical observers in regard to the insanitary influences of slaughter-house atmosphere, there is an almost universal admission that putrid fish have given rise to fatal epidemic disorders.

Factories, Tanneries, Slaughter Houses, Etc.

ART. 1. From and after the passage of this ordinance, it shall not be lawful for any person or persons to establish either a soap factory, tannery, bone black factory, camphene factory or slaughter house within the limits of this corporation, or to continue any that may now be established, without first having obtained permission of the common council, under a penalty of one hundred dollars for each and every offence, recoverable before any court of competent jurisdiction for the benefit of the city.

ART. 2. That all ordinances or parts of ordinances contrary to the provisions of this be, and the same are hereby repealed.

In connection with the expediency of enforcing this ordinance the often discussed question "do bad odors cause disease?" again presents itself. Certainly many very offensive odors do not occasion disease. Some, in truth, have the reputation of preventing or curing certain diseases, as for example, coal gas has been supposed to modify whooping-cough, and it is a popular belief that wearing camphor or assafœtida bags will prevent attacks of various epidemics. While these opinions are in all likelihood equally incorrect, we must yet admit that human olfactories possess no endowments which qualify them to act as safeguards against the approach of atmospheric causes of disease. Aside from the stinking fogs which have been known to attend certain pestilences, and the stench occasionally connected with malarial poison, it is only the physician who is enabled by cultivating this sense, to detect certain diseases by means of their peculiar odor. Still, in addition to the urgent necessity of repressing bad odors simply under the score of offence and nuisance it seems to me vitally important that the atmosphere of this favorite resort of zymotic diseases should be kept as absolutely free of floating organic materials as is possible to accomplish by human efforts. Whether the organic vapor possess an odor or not; whether the odor be agreeable or disagreeable, it may equally facilitate the spread and intensify the poison of some ex-

isting epidemic. I presume no cautious physician would hazard the assertion, however absurd it might appear at first blush to be, that even the perfume of flowers when excessive in quantity, may not be susceptible of combinations with the atmospheric germs of disease which increase their noxious action. This remark, however, is merely made by way of illustration, and need scarcely alarm the lovers of our floral gifts, lest the atmosphere which is over-burdened with the fragrance of flowers, may carry entangled with their volatile emanations the germs of a lethal epidemic, and thus like Undine's kiss smite with death while it intoxicates with delight.

Lewd Women.

ART. 11. That all houses, buildings, dwellings or rooms occupied by lewd women, shall at all times be subject to the visitation of the police of this city.

This ordinance should be amended by inserting after the word "police," "and officers of the board of health."

Registered houses of prostitution should be visited once weekly, and their inmates inspected in regard to their sanitary condition, and those found diseased should be sequestered until restored to health. For the proper performance of this duty the board of health should be made responsible.

City Physicians.

ART. 1. There shall be appointed by the common council of New Orleans two physicians, to be called the city physicians, whose duty it shall be to attend to all the prisons, workhouses, houses of refuge and jails of this city; one shall attend in the first and fourth districts, and the other in the second and third districts.

ART. 2. It shall be the duty of said physicians to visit, at least once every day, all the workhouses, jails, etc., and attend any patient or patients in the prisons, and continue so to do as often as necessary, when called upon in their respective districts.

ART. 3. In addition to the duties, they shall act as expert physicians to the coroner, each in their respective districts.

ART. 4. They shall both visit the public schools once in each week, in order to vaccinate the children, under the direction of the visiting committees of the respective schools.

ART. 5. In case of the absence or illness of either physician, the other shall attend to his duties as long as it may be necessary; should it not be possible for one to attend to the duties of both, the health committee may appoint an assistant physician for the time required, whose compensation shall be five dollars

per day for the first fifteen days, and two dollars for every subsequent day he is employed, to be paid by the city treasurer; provided, the regular physician is ill, or absent with leave of the health committee; if not, said assistant physician must receive his compensation from the physician whose duty he fulfills.

ART. 6. They shall each day register, in the book kept for that purpose in each prison, workhouse, etc., all their prescriptions, with the name and number of each patient, from which book the orders shall be executed by the nurses or keepers.

ART. 7. The medicines shall be ordered and inspected by the physician in their respective districts, who shall approve the bills for the same before payment can be made.

ART. 8. The physicians shall have the power to remove any prisoners attacked with any contagious disease to some place selected by themselves, and treated at the expense of the city.

10. The common council reserves to itself the right of dismissing either or both of the physicians at will.

Cemeteries and Interments.

ART. 1. That no keeper of any burial-ground within the limits of the city shall receive or bury any corpse unless the bearers or carriers of the same shall deliver to him the certificate of a licensed physician, or of a magistrate, or of the coroner, containing a statement, specifying as nearly as possible, the death, name; age, birth-place, sex and color, and setting forth the location of the house or place whence said corpse was taken for burial, giving the name of the owner or lessee of said house or place, and the number and street where said house is situated; and if there is no number, as close a description of the situation of said house as possible; and should any keeper of any burial-ground refuse or neglect to perform any of the duties required by this article, he shall be fined the sum of fifty dollars for each and every violation.

ART. 2. Whenever the keeper of any of the said burial grounds shall discover that the formalities required by this ordinance cannot be complied with by the bearers or the carriers of the said corpse, or by any person or persons bringing the same for burial, he shall immediately inform the coroner thereof, in order that said officer may proceed to ascertain whether any crime has been committed; and for any neglect to comply with this provision, the said keeper shall be fined, as provided for in the preceding section.

The points of information demanded in section 1, should be more particularly and fully itemized. None but sanitary experts are able to judge of the importance of ascertaining as many facts as possible in regard to the circumstances immediately connected with the death of any and every individual member of a community. The value of these items, either separately or collect-

cement and sharp sand, and covered with bitumen on the ground floor of each tomb, with walls not less than nine inches in thickness, and plastered. All the tombs must be kept in good order, and it shall be the duty of the sexton to notify the owners thereof to have them repaired; otherwise it shall be done by the city at the expense of the owners, who shall be fined in the sum not exceeding fifty dollars.

ART. 4. The mayor and recorders are each authorized to grant permits for the opening of tombs in the public cemeteries, to such persons as may make such application to deposit a dead body therein.

ART. 5. The various churches and associations owning cemeteries are authorized to use them under such regulations made by them, from time to time, as may not conflict with city ordinances.

ART. 7. All sextons shall inter, within the shortest possible delay, all deceased persons who may be conveyed to their respective cemeteries, in graves to be dug not less than four feet in depth, and to be at a distance of at least three feet from each other, according to such limitation as shall be described by the city surveyor, and in pursuance of such directions as they may receive from the mayor; and it shall be the duty of each of said sextons to keep a book, in which they shall insert, according to their dates, the name, sex, age, business and birth-place of each and every person they shall bury in the ground, or deposit in the tombs; to take care that no damage be done to the tombs and fences; to prevent cattle and beasts from going into the said cemeteries; to deliver daily to the chief of the police a certified copy of the burials set forth on their books, whenever thereunto required by the mayor, city council or chief of the police, and to deliver over to their successor the said books. And the said keeper shall be fined not less than ten, nor more than fifty dollars, for each and every violation of the foregoing provisions.

ART. 9. At the expiration of every month, it shall be the duty of keeper of the burial grounds within the city, to deliver to the recorder of births and deaths of this parish all the original certificates required by the ordinances, by virtue of which the said keepers have received bodies for interment. And the said recorder of births and deaths shall carefully file and preserve such original certificates, and keep indexes to the same, so that they may be easily found and referred to, and shall give copies of the same duly certified, whenever thereunto required by the persons interested.

ART. 10. It shall be the duty of the surveyor to visit the cemeteries once a month, and oftener, if he deems it necessary, in order to prescribe the limitations according to which the graves and tombs are to be made, care being taken to reserve all around and along the fences, such places as may be necessary to build tombs for account of the city; and it shall be the duty

of the street commissioner to visit the cemeteries once a month, and see that the ordinances are observed.

ART. 11. No burial shall be permitted in any church-yard in this city, except the pastor of their churches, under a penalty of five hundred dollars.

Sanitary laws, unlike civil and moral laws, are not universal in their application, but have grown out of the necessities of localities differing radically as to the circumstances affecting the health of their respective populations. On this account very little of what has been legislated or written in regard to intramural sepulture is applicable to the mode of burial in this city. There is no reason to doubt that ill-health to the occupants of such houses has frequently followed their erection upon soil that had nearly or quite reached the point of saturation, or in other words, soil which from repletion of animal remains no longer retained its powers of disinfection and deodorization. But no such facts can properly apply to the mode of sepulture practiced in this city. Here the bodies of the dead undergo such rapid disintegration and volatilization that within a very few months only the ashes remain. Some very few exceptions occur, a portion of which are attributable to the fact that the burial cases are hermetically sealed and thus the process of decomposition is retarded, in another portion partial dessiccation and mummification take place.

But these latter examples are so few that the question is mainly in reference to contaminations of the atmosphere by the volatilized elements of dead bodies undergoing extremely rapid decomposition, but enclosed with carefully constructed walls of stone or brick. The very elevated temperature to which the air of these vaults must be brought by the almost tropical heat of the sun, is not favorable to the life of the germs of zymotic diseases, so that I presume these affections are seldom or never communicated by emanations from our tombs. Moreover, the process of destruction is so rapid and complete, as to resemble combustion more than ordinary decay; the period therefore must be brief when any form of organic effluvia will continue to escape.

In the absence therefore of all proof or information to the contrary, I conclude that our method of interment is not prejudicial to the health of inhabitants, even living in the immediate vici-

nity of cemeteries, in any other manner than in adding to the amount of organic matter floating in the atmosphere and thus increasing its aggregate impurity.

These conclusions, however, rest principally upon hypothesis, for although intense degrees of heat and cold are unquestionably very positive disinfectants I have merely ventured the conjecture that the temperature of the tombs in our cemeteries becomes sufficiently elevated to inure to this end, without knowing any facts in proof. The correctness of the second conclusion rests upon that of the first. Whether correct or incorrect, sufficient arguments have already been adduced to show how important it is to the health of a city to remove every preventable source of the defilement of its atmosphere by organic effluviæ. Moreover, the policy of great cities is opposed to intramural sepulture on grounds of impediment, inconvenience and gloominess of associations. We may add to this the fact that the highest cultivation of taste, and affection for the dead prompt the desire that their last resting places shall be surrounded by quiet and rural adornments, only to be obtained beyond the limits of a city. It is therefore desirable that future interments should be discouraged within the corporate bounds of this city.

ART. 14. It shall be the duty of every person, at whose domicile any person shall have died, to cause the same to be buried within forty-eight hours after his death; and any person offending against this section of this ordinance, shall pay a fine not exceeding one hundred dollars for each offence.

ART. 16. The street commissioner and his deputies are hereby authorized to give certificates for burial, embracing the particulars enumerated in the first section of this ordinance, whenever he or they shall be satisfied, from the representation of any known responsible citizen, that there is no reason to suspect that the death of the deceased has resulted from any other than a natural cause, and the subject is one of indigence, and appropriate for charity; and in such cases the street commissioner and his deputies are authorized to provide for the decent interment of the bodies of such indigent deceased persons, by procuring necessary number of coffins to be made; provided, the expense of each grave shall not exceed two dollars; and the expense of the conveyance to the cemetery, except in times of epidemic, shall not exceed seventy-five dollars per month, which shall be paid for two wagons to be used for the purpose, one of which shall be stationed, when not in actual use, near the City Hall, and the other near the office of the deputy street commissioner, of the

second district; and provided, also, that the persons engaged in this service shall convey indigent sick persons to the hospital, whenever called upon for that purpose, and when not occupied in carrying indigent dead persons for burial; and provided, further, that only one of said wagons shall be employed in this service, at times when one shall be able to comply with all the demands.

ART. 17. It is hereby made the duty of the sheriff to give immediate notice to the street commissioner of the death of any prisoner or prisoners confined in the parish jail, and it shall be the duty of the said commissioner to have said bodies interred in the same manner as is provided for the indigent poor; provided, that in all cases the friends of the deceased shall have the privilege of burying them at their own expense.

ART. 18. Hereafter no person shall be buried in the ground of the cemetery, or the square comprised within Washington, Sixth, Prytania and Plaquemine streets, of the fourth district; and in future no interments shall be made therein, except by persons owning lots, vaults or tombs; and further, that the St. Joseph Asylum, of the fourth district, may use square No. 271 for burial purposes.

The mildness of our climate invites to the open air, and it is presumed that the evil effects, which result from over-crowded habitations, are not so common here as in more Northern cities. But in view of the large influx of ignorant and improvident people towards all the Southern cities, and especially this, the following or a similar draft of ordinance should be incorporated among the health laws.

Whenever the Board of Health shall be satisfied that the number of persons occupying any tenement or building is so great as to be the cause of nuisance, or sickness, or a source of filth; or that, from any cause, they are in a condition which is prejudicial or dangerous to the public health, or to the health of the occupants themselves; they may thereupon issue notice, in writing, to such persons, or any of them; that is to say, the owner, agent, or occupant, or either of them, to cause either or all of these deficiencies to be supplied, and the premises put into a cleanly and proper condition, within such reasonable time as they shall appoint: and in case of neglect or refusal to obey such notice, they may themselves cause the alterations and cleansings to be done forthwith, and the expense of it shall be paid by such owner, agent, occupant or other person. Or they may, if they think fit, issue notice to the persons inhabiting such tenement, or to the owner or agent, requiring them to remove from and quit the premises, within such time as the Board may deem reasonable; and if the person or persons so notified, or any of them,

shall neglect or refuse to remove from said tenement or building, the Board of Health are hereby fully authorized and empowered thereupon forcibly to remove them.

The previous pages set forth an exhibit of all the sanitary ordinances, represented to me as being at this time in force in the city of New Orleans. The experienced reader will at once perceive their many excellencies, and may wonder why they should be complained of at all. The truth is, that although as an efficient sanitary code, they have some imperfections, principally found in their lack of adaption to the peculiar exigencies of this city and population, nevertheless, the great cause of failure in meeting our wants, is faultiness of execution. Under the present method of working, the Board of Health is to enforce their ordinances principally through the Street Commissioner, whose official instructions do not specify obedience to the Board of Health, or affix proper penalties for disobedience to them. The case therefore presents somewhat the aspect of the chronic causes of complaint on the part of medical officers in armies and navies who are invested with official rank without authority adequate to the discharge of any duty which imposes obligations upon non-professional persons. They have rank but no right to command. The great Napoleon had the sagacity to perceive this defect in the sanitary police of his army, and with characteristic promptitude invested Baron Larrey with independent and absolute powers in every matter concerning the health of his soldiers. The City Council of New Orleans should vest competent authority in their Board of Health, and place at their disposal competent force and competent means to carry into execution all sanitary ordinances as well as to meet extraordinary emergencies occasioned by threatened or existing epidemics. Whenever clothed with these powers they may reasonably be held to a strict accountability for the manner in which they discharge the duties of their offices.

From the following remarks copied from the "History of the Health Laws of the State of New York," it would seem that difficulties similar to those occurring to our Board of Health, had been met and overcome by the Metropolitan Board of Health of New York. In the above named paper, dated July, 1866, their

Attorney, Mr. Bliss, thus writes, in reference to their new code of health ordinances :

The broadest discretionary power has been vested in them. Give them jurisdiction over a subject, and their decision is final. It was not intended that that decision should be reviewed in the courts further than to see that it was within their jurisdiction. If it was a matter relating to health, their power was made above that of the courts; such is the very essence and meaning of a health law. Were it otherwise, a Board of Health would be worse than a fifth wheel to a coach. The former laws, it will be seen, put power into the hands of Boards appointed, in whole or in part, by the Governor; gave power to pass general rules and to make specific orders, and make a violation of either a misdemeanor; authorized business to be forbidden, buildings to be closed, and nuisances abated on the shortest notice; imposed the expense on the owner, gave power to issue warrants, to destroy property, to remove persons and things from the city, and, in short, to do everything that is authorized by the present law. If any member will take, as I have done, a copy of our law, and mark the powers conferred by it, which are also to be found in former laws, he will find literally no new ones. The difference is that an attempt is being made to execute the existing laws.

The figures brought together by Prof. Chaillé, show a deplorable condition of public health, but by no means a condition hopeless of remedy.

Within the memory of numerous persons still in the vigorous enjoyment of life, Louisville was called without contradiction "the grave-yard of the West." Now it is one of the healthiest of American cities. What has wrought the change? Draining and filling ponds and swamps, paving their streets and the adoption of an admirable system of constructing their residences so as to avoid crowding and to secure ample ventilation. While the topography of New Orleans makes drainage a more difficult problem here than in Louisville, the difference in geological substrata renders it more imperatively necessary. A bed of coarse gravel underlies Louisville, which is extremely favorable to the subsidence of surface water; here, a dry well is an impossibility, and all surface water must be gotten rid of by drainage or evaporation. Those who have an interest in the future glory and prosperity of New Orleans, should strain every nerve—bring every influence to bear in order that a thorough system of drainage and of street paving should be extended as rapidly as pos-

sible over the whole municipal territory. Not until these ends are accomplished will this imperial and beautiful city occupy a sanitary position and claim a sanitary reputation deserving of its high status in point of wealth and enlightenment.

It seems to me that the best and in the end the most economical system of street gutters, which can be adopted here will prove to be either sections of cylinders of cast iron, or slabs of stone so placed as to form the bottom and sides of the gutter. In either case, cast iron slabs should be made to cover the gutter. The latter is important to prevent evaporation and important also because experience as old as the most prosperous era of Rome has demonstrated that sewers cannot be kept clean by flushing alone.

These suggestions, however, come from one who does not pretend to the least knowledge of civil engineering, but, whose mind is so deeply impressed with the paramount objects of shutting off sewage water from the rays of the sun and constructing the gutters in such manner that they may be readily cleansed, that all other considerations were merged in these.

This paper is not designed to include the consideration of any subjects connected with the sanitary condition of New Orleans, which cannot properly be made points of legislative enactment. On this account no mention is made of the many serious violations of the rules of health in the social and personal usages of our citizens. It is probable that these infractions are not in any whit more numerous or more flagrant in New Orleans than in most other cities of equal population, but dissipations and the abandoned pursuit of pleasures bring surer and swifter penalties here than in cooler climates. Now, although these are matters which cannot be controlled by direct legislation the city government has the power and opportunity to establish places of resort and recreation which will attract our citizens to spend their leisure hours in amusements conducive alike to health and the cultivation of the most refined taste.

No American city has a pleasure ground more readily susceptible of utilisation and embellishment than our City Park. Why are measures not taken to render it a point of attraction and resort for our citizens? If the condition of crippled finances of the

city prevent the necessary outlay, why will not some of our leading citizens apply for its gratuitous lease, and by joint stock establish zoological and botanical gardens after the plans of those connected with most of the large European cities? Money thus appropriated will yield our citizens a thousand-fold more of profit and pleasure than do those large sums annually expended upon purposeless pageants. Some of these gardens are in Europe made self-sustaining by a chartered right to require of visitors a small admission fee and still are accessible to the poorest citizens as on stipulated days they are free to all.

